The Influence of Treatment on the Course of Rheumatic Fever before and since the employment of Salicylic Acid.

Dr. WILLIAM SQUIRE read a paper on this subject at a late meeting of the British Medical Association (*British Medical Journal*, Aug. 23, 1879). He said: A concurrence of three conditions is found in all cases of acute rheumatism: 1. Increased waste; 2. Checked elimination; 3. Ready febrile reaction. Of these, the last is the most important; even a certain specificity in this reaction is requisite to determine that the resulting disease shall be rheumatic fever and not tuberculosis, erysipelas, or pneumonia. To these three conditions treatment has always been directed. Complete rest is the first necessity. Rest diminishes waste, prevents pain, induces sleep, and so directly tends to lower fever; the balance of elimination, aided by diluents, is restored; and the patient placed in a fair way of recovery. It has been said that, where early treatment with every comfort can be secured, much of the danger of heart-mischief is avoided; but the tendency to heart-complication during attacks at the same ages is much the same for rich and for poor; what care and comfort can do, is to guard against the incidence of attacks during early childhood, when danger to the heart is most to be dreaded. No method of treatment has any specific power in preventing disturbance of the heart during the illness, or in precluding the relapses in which such disturbance may again arise. Whatever lowers the fever and shortens its duration, tends to avert heart-disease. While Dr. Squire was studying the progress of acute rheumatism in the clinique of La Charité in Paris, some cases were being treated with full doses of quinine, and others with repeated small bleedings. In these, relief was felt after the abstraction of a *demi-pallette*, and, among other signs, the moist skin seemed to show in these patients that the fever was reduced; in those under quinine, from the headache and dry skin, the fever was said to remain unabated. The clinical thermometer completely reversed this impression: it showed the fever to be uninfluenced by the bleeding, and that a considerable reduction of temperature had been effected by the quinine. In many of these latter cases, convalescence was early; it was tedious and interrupted in the others. Quinine, in checking waste, unexpectedly lowered fever. Bleeding, expected to reduce fever by increasing elimination, failed in this object; as all evacuants fail—whether purgation, diuresis, or diaphoresis—when carried beyond the restoration or re-establishment of normal secretions to the elimination of morbid products or a supposed morbid poison. Another object aimed at by this treatment was, to counteract one of the primary products of the disease—an increase of fibrin in the blood, to which some of the evil consequences may be attributable. No doubt, potash and the nitrate of potash may be directed to this end with greater safety than bleeding or calomel can be; but the alkaline treatment, as well as the bleeding, tends to increase the subsequent anæmia which so much retards convalescence. Moreover, the increase of fibrin, the state of hyperinosis, is a direct consequence of the febrile state. This is diminished by whatever controls fever, while it is actually increased by some of the eliminative means employed, as by sweating under blankets; it is relieved by tepid sponging. All soothing means are antipyretic—ease of joints, sleep at night—whatever relieves pain reduces fever. Colchicum relieves the local pain of gout, and the fever falls. The general anæsthesia induced by salicylate of soda has much to do with the antipyretic influence it exerts in rheumatic fever. This sedative effect, with lowered vaso-motor reaction, permits a readier return to the normal excretion of urea, thus promoting and hastening the natural crisis, or rather lysis, in which the disease should end. With the increase in the amount of urea and uric acid excreted, the joints become less painful, and this in many cases somewhat precedes the fall in temperature; hence the fever has been regarded as dependent on the articular mischief, and treatment by blisters has been directed specially to the affected joints, not without some degree of success. As much may be said for the eliminative treatment intended to promote the removal of the products of tissue-waste; neither plan will lower the first fever or lessen the danger of heart-disease, nor diminish the anæmia of convalescence with its tendency to relapse. Before the use of salicylic acid, we had no means of controlling the fever of rheumatism on which these evils depend. The power of quinine had found a limit; purgatives and salines proved useless. Aconite, digitalis, and veratrum had failed. Cold was reduced by Wilson Fox to its true service against hyperpyrexia, and bleeding proved to be as injurious in this complication as it is in the ordinary course of the disease. The iron-treatment introduced by Dr. Russell Reynolds checked in some degree the febrile reaction, prevented subsequent impoverishment of the blood, and some of the worst consequences of endocardial exudation. Its use in erysipelas, and in rheumatism following some specific fevers and the puerperal state, is well attested. With children, cases may arise where a choice has to be made between iron and salicylic acid; one or the other must be adopted; they cannot both be employed at once. Dr. Squire's experience of iron was a favourable one. Twice in children where the first signs of rheumatism were in the heart, this means, with chloral at night, gave good results. In one case of a boy five years old, treated early with salicylate of soda, no heart-affection occurred. In a girl three years old with an endocardial murmur, and no joint affected when first seen, good progress followed the salicylate, but a soft systolic or presystolic *bruit* remained. The only evidence of the earliest attack of acute rheumatism in young children is often in the heart. Second attacks of acute rheumatism in adolescents have been treated very advantageously by either means. The change from profuse perspiration and great restlessness to comparative comfort by the use of dialyzed iron in a young man with high fever, on the fourth day of other treatment, was very marked; good convalescence began in a fortnight. In a similar case treated on the third day with salicylate of soda, in twenty-four hours, before two drachms had been taken, all fever was subdued, and the convalescence began in a week. In second attacks, much prolonged, occurring to men at the age of fifty, one had pneumonia, one a systolic and cardiac murmur and diffused pulmonary *râles;* rapid improvement followed the use of salicylate of soda. Cardiac irritation is always soothed under its influence; with a steadier circulation the *râles* in this case disappeared, diarrhœa, meteorismus, and perspiration ceased, and the urine, pale and of low specific gravity, as it often is in these prolonged cases, was soon restored to its normal quality. What none of the eliminative means used had been able to effect now occurred. An increase in the elimination of urea, noticed in favourable cases, is aided by the salicylate of soda; it acts as a sedative without checking any of the secretions. The relief of pain is partly from its action on the central nervous system, more directly from the dilatation of the peripheral bloodvessels which it produces; at the same time excitability of the heart is lowered, hence its utility when the heart is already involved, while by its power to arrest the special febrile action, at whatever period of the disease it is given, no remedy can be so likely to prevent that complication. The earlier it is given and the sooner its effects are produced, the less likely is the heart to suffer, for the shorter the duration of the fever the less is the possibility of heart-disease. As salicylic acid is rapidly eliminated by the kidneys, the doses of it, or of salicylate of soda, must be frequently repeated. Salicine is but slowly and partially converted into salicylic acid. The acid is less easily and less safely administered than salicylate of soda, and is in no way more efficacious where no germicide influence is required. The acid so readily and cheaply obtained from carbolic acid, since Kolbe's great discovery, has exactly the therapeutic properties of that prepared by Cahors from the wintergreen (*Pyrola*) as determined in 1855 by Bertagnini. Salicine, as first separated by Leroux from willow-bark, has been found by Senator and others to have no other action. The salicylate of soda is the readiest way of giving the remedy where its effects should be produced rapidly, a point of great importance in the young, and is exactly suited to what is required in the treatment of acute rheumatism.

Dr. ANDREW CLARK summed up the results of the discussion which the paper elicited, as follows: First, they had as yet no stable criterion whereby to determine the therapeutic effects of any drug upon rheumatic fever; they did not yet completely know the history of this fever. Secondly, therapeutic conclusions were apt to be vitiated by failing to distinguish between the two forms of the disease,—the continued and the relapsing form. Third, while the influence of salicylic acid and its compounds somewhat speedily relieved the *malaise* of which the rheumatic sufferer complained, it was extremely doubtful whether they in any degree diminished the peril of secondary cardiac or other inflammatory complications. Lastly, it was left uncertain whether they succeeded in removing that actual pathological state of which, in a sense, these other things might be said to be the expression. In short, there was almost a greater tendency to relapse with the salicylates than otherwise. Although this did not seem to be a very great gain, yet it was enough to help them in future inquiries.

Recent Observations on Mumps.

Mumps was known at a very early period of medical knowledge. Hippocrates left us a very faithful and minute description of the disease. But a great diversity of opinion as to its nature and etiology has always prevailed among medical authors. Some, and among these several leading practitioners, consider the affection to be local, brought on by taking cold; while others are of the opinion that it is the local indication of some general affection whose places of predilection are the glands, such as the parotids and testicles in man, and the parotids, breasts, and sometimes the ovaries, in woman. Those who consider mumps as a local affection differ in their opinion as to whether the disease is caused by acute inflammation of the parotid gland or by retention of the saliva caused by some obstruction of Steno's duct. The principal questions which remain to be elucidated on the subject are the following. Is it a local or general affection? Is it either a miasmatic or a contagious disease, or both miasmatic and contagious at the same time? Ought it to come under the head of fevers which accompany eruptions, or is it a disease which belongs to an entirely new group?

Further light has been thrown on several of these questions, especially as far as infection is concerned, by an able thesis by Dr. PINET of Paris, discussed in the *Journal des Connaissances Méd.*, January, 1879. The author, an army surgeon, has had ample opportunity of studying the disease closely in French barracks (where it seems to occur epidemically), and of tracing it to its origin. After giving a historical sketch of the labours of his predecessors on the subject, Dr. Pinet very carefully enumerates and analyzes a number of cases, and draws from them the following conclusions.

1. The affection must be considered as being general, not local; because, in certain cases, general symptoms have preceded the local ones, which manifested themselves in the form of affections of the parotids, testicles, prostatic gland, urethra, intestines, eyes, brain, etc. 2. It has never been known to occur twice in the same individual. 3. It occurs epidemically. 4. It is contagious.

As far as the etiology of the disease is concerned, the author ascribes it to